Section II. (Amendments to the Claims)

Please amend claims 1-32, and add new claims 33-35, as set out below in the listing of claims 1-35 of the application.

1. (Currently amended) An *in vitro* method for detecting the presence of renal cancer in an individual, to determine a stage or severity of said renal cancer in an individual or to monitor the effect of a therapy administered to said individual with said renal cancer, said method comprising ~~that comprises~~:

~~c)~~ a) ~~the~~ detection and/or quantification of ~~the~~ Plexin-B1 protein, of ~~the~~ mRNA of ~~the~~ a plexin-B1 gene, or of ~~the~~ corresponding cDNA in a sample of ~~an~~ said individual, and

~~d)~~ b) ~~the~~ comparison of ~~the~~ an amount of Plexin-B1 protein, of ~~the~~ an amount of plexin-B1 gene mRNA or of ~~the~~ an amount of the corresponding cDNA detected in a sample from ~~an~~ said individual, with their normal reference values.

2. (Currently amended) ~~An~~ The *in vitro* method according to claim 1, ~~which is employed to detect the presence of renal cancer in an individual, to determine the stage or severity of this cancer in an individual or to monitor the effect of the therapy administered to the individual with this cancer~~ wherein said sample comprises a kidney tissue sample.

3. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, ~~wherein said sample is a kidney tissue sample~~ as employed to detect the presence of renal cancer in said individual.

4. (Currently amended) ~~Method~~ The *in vitro* method according to claim [[3]] 2, ~~wherein~~ further comprising analyzing said kidney tissue sample ~~to be analyzed is obtained~~ by a ~~any conventional~~ method~~, preferably~~ comprising nephrectomy.

5. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, wherein said sample is a urine, blood, plasma, serum, pleural fluid, ascitic fluid, synovial fluid, bile, semen, gastric juice or cerebrospinal fluid sample.

6. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, wherein said sample ~~to be analyzed is~~ has been obtained from an individual who has not previously been diagnosed with renal cancer.

7. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, wherein said sample ~~to be analyzed is~~ has been obtained from an individual who has previously been diagnosed with renal cancer.

8. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, wherein said sample ~~to be analyzed is~~ has been obtained from an individual undergoing treatment, or who has been treated previously, for renal cancer.

9. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, ~~characterized in that it comprises the extraction of~~ comprising extracting the sample, either for obtaining a protein extract or for obtaining an extract of total RNA.

10. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, characterized in that the detection and/or quantification of the Plexin-Bl protein comprises a first step, in which the protein extract of the sample is ~~placed in contact~~ contacted with a composition of one or more specific antibodies against one or more epitopes of the Plexin-Bl protein, and a second step, in which ~~the~~ complexes formed by the antibodies and the Plexin-B 1 protein are quantified.

11. (Currently amended) ~~Method~~ The *in vitro* method according to claim 10, characterized in that said antibodies comprise antibodies selected from among monoclonal antibodies, polyclonal antibodies, either intact or recombinant fragments thereof, combined antibodies and Fab or scFv antibody fragments, specific against the Plexin-B 1 protein; ~~these~~ wherein said antibodies ~~being~~ are human, humanized or of a non-human origin.

12. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 10 or 11~~ claim 10, characterized in that in the detection and/or ~~quantifiction~~ quantification of the complexes formed by the antibodies and the Plexin-Bl protein, ~~the techniques used are~~ comprises use of a technique selected from the group ~~formed by~~ consisting of: Western-blot, ELISA (Enzyme- Linked Immunosorbent Assay), RIA (Radioimmunoassay), Competitive EIA (Competitive Enzyme Immunoassay), DAS-ELISA (Double antibody Sandwich-ELISA), immunocytochemical and

immunohistochemical techniques, techniques based on the use of biochips or protein microarrays that include specific antibodies, assays based on precipitation with colloidal gold, ~~in formats such as dipsticks; or by means of~~ affinity chromatography techniques, ligand binding assays ~~or~~ and lectin binding assays.

13. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, characterized in that the detection and/or quantification either of the mRNA or of the corresponding cDNA of the plexin-BI gene comprises a first step of amplification of the mRNA that is present in ~~the~~ an extract of total RNA from said sample, or of the corresponding cDNA synthesized by reverse transcription of the mRNA, to yield an amplification product; and a second step of quantification of the amplification product from either the mRNA or the cDNA of the plexin-Bl gene.

14. (Currently amended) ~~Method~~ The *in vitro* method according to claim 13, characterized in that the amplification is performed qualitatively or quantitatively by means of RT-PCR using primer oligonucleotides, where the sequences of the ~~primers~~ primer oligonucleotides used to amplify the sequence of the plexin-Bl gene are SEQ ID NO. 1 and SEQ ID NO. 2.

15. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, characterized in that the detection and/or quantification ~~is done with~~ comprises use of specific probes of the mRNA or of the corresponding cDNA of the plexin-BI gene ~~by techniques such as the Northern blot or Northern transfer~~.

16. (Currently amended) ~~Method~~ The *in vitro* method according to ~~claims 1 and 2~~ claim 1, ~~characterized in that the~~ comprising detection of the mRNA ~~is done~~ by real time quantitative RT-PCR (Q-PCR).

17. (Currently amended) ~~Use~~ A method of diagnosis and/or monitoring of an individual actually or potentially having renal cancer, said method comprising use of a nucleotide or peptide ~~derivatives~~ derivative of the plexin-Bl gene to detect in vitro the presence of renal cancer in an individual, ~~for determining~~ to determine in vitro the stage or severity of said cancer in the individual or ~~for monitoring~~ to monitor in vitro the effect of the therapy administered to an individual having said cancer.

18. (Currently amended) An *in vitro* method for identifying and assessing the efficacy of compounds for renal cancer therapy, comprising:

a) ~~placing~~ contacting an immortalized kidney cell culture~~, in contact~~ with ~~the~~ a candidate ~~agent~~ compound under ~~the~~ conditions and for ~~the~~ a time enabling ~~which are suitable for allowing~~ them to interact,

b) detecting and quantifying ~~the~~ plexin-Bl gene or Plexin-Bl protein expression levels in said immortalized kidney cell culture, and

c) comparing said expression levels with those of immortalized kidney cell control cultures not treated with the candidate compound.

19. (Currently amended) A method of at least one of ~~Use of nucleotide or peptide sequences derived from the plexin-Bl gene in methods for the~~ search, identification, development and assessment of the efficacy of compounds for renal cancer therapy, said method comprising use of nucleotide or peptide sequences derived from the plexin-Bl gene.

20. (Currently amended) ~~An agent that induces Plexin-Bl protein expression and/or activity, or that inhibits the carcinogenic effects of the repression of~~ A recombinant expression vector adapted for expression of the Plexin-Bl protein ~~expression~~.

21. (Currently amended) ~~An agent according to claim 20, selected from the group formed by: a) recombinant vectors expressing the Plexin-B-1 protein, b) cytotoxic agents such as toxins, molecules with radioactive atoms, or chemotherapeutic agents, included among which are, with no limit, small organic and inorganic molecules, peptides, phosphopeptides, anti-sense molecules, ribozymes, triple-helix molecules, double-strand RNA, etc., inhibiting the carcinogenic effects of the repression of Plexin-Bl protein expression and/or activity, and c) Plexin-B1 protein agonist compounds, which induce, mimic or replace one or more of the functions of the Plexin-Bl protein~~ A method for treating renal cancer, comprising administration of an effective amount of a recombinant expression vector according to claim 19.

22. (Currently amended) ~~Agent according to claims 20 or 21~~ A method for treating renal cancer, comprising administration of an effective amount of Plexin B1 protein.

23. (Currently amended) ~~Plexin-B1 protein for use as a medicament, in particular as a medicament~~ A method for treating renal cancer, comprising administration of an effective amount of an agent that induces Plexin-B1 protein expression and/or activity, or that inhibits the carcinogenic effects of the repression of Plexin-B1 protein expression.

24. (Currently amended) ~~Use of any of the agents according to claims 20 or 21 in the preparation of a drug~~ The method for treating renal cancer according to claim 23, wherein said agent is selected from the group consisting of:

a) agents that inhibit carcinogenic effects of repression of Plexin-B1 protein expression and/or activity, and

b) Plexin-B1 protein agonist compounds that induce, mimic or replace one or more of the functions of the Plexin-B1 protein.

25. (Currently amended) ~~Use of the Plexin-B1 protein in the preparation of a drug for treating renal cancer~~ A pharmaceutical composition comprising a therapeutically effective amount of an agent that inhibits carcinogenic effect of the repression of Plexin-B1 protein, and a pharmaceutically acceptable excipient.

26. (Currently amended) ~~Pharmaceutical~~ The pharmaceutical composition ~~comprising a therapeutically effective amount of at least one agent~~ according to ~~claims 20 or 21, and at least one pharmaceutically acceptable excipient~~ claim 25, wherein the agent is selected from the group consisting of:

(a) recombinant vectors expressing the Plexin-B1 protein;

(b) cytotoxic agents; and

(c) Plexin-B1 protein agonist compounds that induce, mimic or replace one or more of the functions of the Plexin-B1 protein.

27. (Currently amended) ~~Pharmaceutical~~ The pharmaceutical composition according to claim 26, ~~comprising a therapeutically effective amount of~~ wherein the agent comprises a Plexin-B1 protein~~, and at least one pharmaceutically acceptable excipient~~.

28. (Currently amended) [[A]] The pharmaceutical composition according to ~~claims~~ claim 26 ~~and 27, characterized in that it contains another drug substance, preferably one inducing~~ wherein the agent comprises a recombinant expression vector adapted to express the Plexin-B1 protein ~~function~~.

29. (Currently amended) A kit to detect presence of renal cancer in an individual, to determine a stage of the severity of said cancer in an individual, or to monitor effect of a therapy administered to an individual with said cancer, said kit comprising ~~that comprises~~ an antibody that specifically recognizes the Plexin-B1 protein, and a carrier, in ~~suitable packaging~~ packaged form.

30. (Currently amended) A kit to detect the presence of renal cancer in an individual, to determine a stage of severity of said cancer in an individual, or to monitor effect of a therapy administered to an individual with said cancer, said kit comprising ~~that comprises~~ a primer pair ~~designed~~ adapted to specifically amplify a nucleic acid having a sequence that is specific to the plexin-B1 gene.

31. (Currently amended) A kit according to claim 30, wherein the sequence of the primer pair is selected from SEQ ID NO. 1 and SEQ ID NO. 2.

32. (Currently amended) A method of diagnosis and/or monitoring of an individual actually or potentially having renal cancer, said method comprising use of a kit ~~according to claims 29 to 31 that is employed to detect the presence of kidney cancer in an individual, to determine the stage or severity of this cancer in an individual or to monitor the effect of the therapy administered to the individual with this cancer~~ selected from the group consisting of:

kits comprising an antibody that specifically recognizes the Plexin-B1 protein, and a carrier;

and

kits comprising a primer pair adapted to specifically amplify a nucleic acid having a sequence that is specific to the plexin-B1 gene.

34. (New) The method according to claim 32, wherein the kit comprises a primer pair adapted to to specifically amplify a nucleic acid having a sequence that is specific to the plexin-B1 gene, wherein the sequence of the primer pair is selected from SEQ ID NO 1 and SEQ ID NO 2.

35. (New) The pharmaceutical composition of claim 25, further comprising a substance inducing Plexin-B1 protein function.